



## Early Journal Content on JSTOR, Free to Anyone in the World

This article is one of nearly 500,000 scholarly works digitized and made freely available to everyone in the world by JSTOR.

Known as the Early Journal Content, this set of works include research articles, news, letters, and other writings published in more than 200 of the oldest leading academic journals. The works date from the mid-seventeenth to the early twentieth centuries.

We encourage people to read and share the Early Journal Content openly and to tell others that this resource exists. People may post this content online or redistribute in any way for non-commercial purposes.

Read more about Early Journal Content at <http://about.jstor.org/participate-jstor/individuals/early-journal-content>.

JSTOR is a digital library of academic journals, books, and primary source objects. JSTOR helps people discover, use, and build upon a wide range of content through a powerful research and teaching platform, and preserves this content for future generations. JSTOR is part of ITHAKA, a not-for-profit organization that also includes Ithaka S+R and Portico. For more information about JSTOR, please contact [support@jstor.org](mailto:support@jstor.org).

## BOOK REVIEWS AND NOTES.

ESSAYS IN RADICAL EMPIRICISM. By *William James*. Longmans, Green, & Co., New York, 1912. Pp. 282.

Prof. William James was by no means a systematic thinker, and his interests were too various to be satisfied with one interpretation of life. As soon as he had defined one conception he grew beyond himself and longed for a broader view. It is highly characteristic of Professor James that after he had set forth his philosophy of pragmatism, he said in his preface to *The Meaning of Truth* (1909): "I am interested in another doctrine in philosophy to which I give the name of radical empiricism, and it seems to me that the establishment of the pragmatist theory of truth is a step of first-rate importance in making radical empiricism prevail."

The philosophy of "radical empiricism" is outlined in twelve essays collected by Ralph Barton Perry, Professor James's literary executor, in the posthumous publication now before us. The several subjects discussed are as follows: "Does 'Consciousness' Exist?", "A World of Pure Experience," "The Thing and Its Relations," "How Two Minds Can Know One Thing," "The Place of Affectional Facts in a World of Pure Experience," "The Experience of Activity," "The Essence of Humanism," "*La Notion de Conscience*," "Is Radical Empiricism Solipsistic?", "Mr. Pitkin's Refutation of 'Radical Empiricism,'" "Humanism and Truth Once More," and "Absolutism and Empiricism."

While these articles are written in the same style and with the same breadth of mind as the books on pragmatism, Professor James considers both as independent doctrines. He says: "Let me say that there is no logical connection between pragmatism, as I understand it, and a doctrine which I have recently set forth as 'radical empiricism.' The latter stands on its own feet. One may entirely reject it and still be a pragmatist."

In the editor's preface, Mr. Ralph Barton Perry quotes Professor James as follows: "Let empiricism once become associated with religion, as hitherto through some strange misunderstanding it has been associated with irreligion, and I believe that a new era of religion as well as of philosophy will be ready to begin."

K

---

UNIFICATION AND DEVELOPMENT OF THE PRINCIPLES OF THE ALGEBRA OF SPACE  
By *Alexander MacFarlane*. Lancaster, Pa.: New Era Printing Company, 1911. Pp. 92.

This is Dr. MacFarlane's "President's Address" as president of the Inter-

national Association for Promoting Quaternions and Allied Mathematics. He says:

"We have before us the ordinary algebra founded on the straight line, or as Hamilton at one time preferred to say, on pure time. We have next the algebra of the complex quantity, founded on the plane; it is a portion only of plane algebra, for what is treated is the circular part only; the hyperbolic counterpart is almost wholly neglected. For instance, in the solution of the quadratic and the cubic equation, the roots are real and impossible so far as line algebra is concerned, but hyperbolic or circular so far as plane algebra is concerned. This plane algebra is a logical generalization of line algebra, and every theorem in the latter has its generalized form in the former.

"There is a common belief that the algebra of the circular complex quantity rounds off and completes the domain of algebra, and we are furnished with a so-called reduction of every algebraic expression to the form of the circular complex quantity. But that argument is entirely fallacious; for in the plane there is a hyperbolic vector, and none of these can be reduced to the form mentioned. This matter was discussed before the American Institute of Electrical Engineers (*Transactions*, vol. 14, p. 163), the orthodox doctrine being championed by Mr. Steinmetz, and the opposite by myself. My argument was derived from the investigation for the discharge of an electrical condenser; when the discharge is alternating the analysis leads to circular complex quantities and when it is not alternating to hyperbolic complex quantities which are analogous in every particular to the circular.

"Then we have before us three forms of space-analysis: the scalar, founded by Descartes, which makes use of axes, but provides no explicit notation for directed quantities whether line or angle; the quaternionic, founded by Hamilton, which is characterized by a notation for versors or angles in space; the vectorial, founded by Grassmann, which is built on vector-units and compound units derived from them. For the past half century the masters of these several forms have been engaged in a triangular fight; much has been written on vectors *versus* quaternions; and we have heard of a Thirty Years' War between one who could bend the bow of Hamilton and one equally skilled in the weapon of Descartes. It will surely be admitted that each branch contains part of the truth; it is therefore highly probable that none of them contains the whole truth, and that each has a part of the truth which the others have not. It has for long seemed to me that what is wanted is an analysis which will harmonize all three, and present itself as the space-generalization of algebra. As to this conception of the oneness of the algebra of space, I may quote Sylvester's declaration that he would as soon acknowledge a plurality of gods as a plurality of algebras. Likewise, Gibbs at the close of his address to the Mathematics Section of the American Association, said we begin with multiple algebras and end with multiple algebra."

The pamphlet before us contains Professor MacFarlane's solution of the problem which consists mainly in a unification and generalization of the principles of the algebra of space. K

---

THE UNCAUSED BEING AND THE CRITERION OF TRUTH. By E. Z. Derr, M.D.  
Boston: Sherman, French & Co., 1911. Pp. 110. Price \$1.00 net.

This interesting book takes issue with pragmatism and criticizes Prof.